

CANNADAY (C.G.)

The relation of tight lacing
to uterine development &c



[Reprinted from the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL
for December, 1894.]

THE RELATION OF TIGHT LACING TO UTERINE DEVELOPMENT AND ABDOMINAL AND PELVIC DISEASE.*

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The only excuse necessary to offer for the production of this paper is found in the absolute necessity for seriously considering the subject of tight lacing as it exists in civilized countries.

The subject dealt with in this article is of special interest to the general practitioner as well as to the gynæcologist, while to the race it is of serious importance—so serious as to be already displaying its deleterious results in characters so vivid as to call forth the gravest apprehensions from true philanthropists. “What read you there that hath so cowarded and chased your blood out of appearance?”

This is not claimed as an original idea by the writer ; yea, for many years articles numerous and lengthy have been produced with results nil. Sommering, of England, published almost a century ago an article bearing directly on tight lacing and its effects, and was able to record no less than one hundred articles by different authors on the subject, while since his time to attempt a classification of all works touching briefly on this subject would entail no trifling expenditure of time and patience.

Convinced clearly as to the truth and firmness of this article's claim, the writer feels a certain degree of trepidation in condemning in unmistakable terms the unconcern of an intelligent profession living in the presence of such an injurious custom, and at the same time not offering a united protest.

Its importance as an ætiological factor in pelvic ills has been lost to view in the mad rush for scientific research and inventive methods.

* Read before the International Medical Congress in Rome, Italy, 1894.



There is to-day no one subject respecting which so much importance should be attached by profession, laity, state, and philanthropist as causative of abnormal conditions.

That those countries most progressive in art, science, and gynæcology—Germany, United States of America, England, and France—so endowed with such illustrious and thoughtful lights, dead and living, should have failed to thoroughly awaken concerted interest in such an important factor in the causation of disease is to be wondered at as much as the perpetuation by the patrons of progress and refinement of so uncomfortable and harmful a relic of barbarism. This, in the latter case, is attributable in a vast majority of the cases to ignorance, they being novices as to anatomy and strangers to physiology; females consider it a light jest when they are informed as to its injurious effects. It shall be the object of this writer to faithfully portray the evil effects of tight lacing, both as a factor in the causation of disease and as an obstacle to that normal condition of affairs which offers the greatest resistance to the invasion of disease, and at the same time to contrast the well-developed conditions and freedom from pelvic ills in those who do not practice tight lacing, with those frail constitutions, barrenness, and invalidation found in its patrons.

Nor is it to be understood that tight lacing is confined to those who wear corsets only, for the clothing may be worn so tight as to do practically the same harm, though in a less degree, by its gradual compression.

It is earnestly desired to firmly impress the idea that tight lacing is not the only cause that may produce maldevelopment of the uterus and appendages, and occasion diseased conditions, but that it is one of the chief factors.

A brief review of the anatomy of the female pelvis may aid in the better comprehension of the idea intended to be conveyed.

The pelvis consists of bones, to all intents and practical purposes as a solid unyielding structure with the false pelvis representing a truncated cone, its base looking upward and slightly flattened on its anterior; the external and internal oblique, transversalis, pyramidalis, and rectus muscles, with sheaths and tendons, combine to form the lateral and anterior walls of a cylinder continuous with the last-named structure. Great strength and resistance is added to this cylindrical body by the spinal column lined by the quadratus-lumborum muscles, constituting the posterior.

Inclosed in this cylindrical body from diaphragm downward are organs and structures readily displaced by pressure. Among these

we find the uterus, which after birth remains undeveloped to the same extent, practically speaking, as in infancy, until near the approach of puberty, when it develops rapidly and continues to increase in size proportionally to the whole body until its maximum of development is attained—usually between sixteen and twenty years (Puech).

The virgin uterus averages two and one third to three inches in length, its width at the level of the Fallopian tubes two inches, its weight about twelve drachms; it is suspended in the pelvis by ligaments "amounting to little besides folds of peritonæum" and the proximity of the anterior and posterior segments of the pelvis.

The Fallopian tubes and ovaries, with feeble supports, spread out to the right and left of the uterus, in connection with the broad ligaments, almost at right angles. The ovaries formed from the Wolffian bodies are not of exception as to growth and development. At the age of eleven, generally, they rapidly develop, and at puberty a new era sets in—viz., maturation and periodical rupture of the Graafian follicles; the remaining parts of the generative organs before and at puberty undergo a rapid increase in size.

The vascular supply consists of tortuous canals with free anastomosis and lax walls. From twelve to sixteen years at least eighty-five per cent. of girls develop generative organs. It must be remembered that the uterus and appendages are covered almost entirely by peritonæum, which is susceptible to injury from slight causes; that the construction of the vessels supplying the blood is of such a nature as to favor either anæmia or congestion in proportion to the degree of compression exerted.

The mobility of the uterus and the plasticity of the bone and tissues with the increased supply of blood the parts are receiving, or should receive, enables us more clearly to comprehend the effects of pressure on an organ requiring rest and freedom to develop during such important transformation. It is at this time, or earlier, that parents allow their girls to commence the use of corsets and use their own ideas, which are generally not moderate as to the degree of constriction. "Either thou art most ignorant by age or thou wert born a fool." While—"Nature stood with stupid eyes and gaping mouth that testified surprise." The corset as usually worn is so constructed as to exert its greatest pressure from above the brim of the pelvis downward, compressing the abdominal walls and contracting the lower parts of the thorax and pushing inward the costal cartilages until the seventh and eighth are in close contact, often the eighth overlap. The liver, from being placed above the maximum of constriction and

having the half cubical form, is not displaced downward, but acts in connection with the unyielding thoracic walls as a potent means of displacing downward the displaceable organs (Symington).

Gibson, in 1884, in his illustrations on the chest, has considered it as readily displaceable, though this must be exceptional. The maximum of constriction, occurring as it does in the direct neighborhood of the stomach, must seriously affect this viscus. When distended, the pylorus is below and the splenic portion above, the constriction forming the hour-glass stomach at times found in this class of cases, the pylorus being much larger and reaching to a point corresponding to a line uniting the spines of the iliac crests. The duodenum is found near the same lines. The jejunum, ileum, and mesentery are crowded into the pelvis along with the transverse and ascending colon. The *cul-de-sac* of Douglas is filled with the small intestines, which help to antevert the uterus when the rectum is loaded with fæces, also when the bladder is distended and the rectum empty, the uterus is retroposed, after displacing the folds of intestines from the posterior *cul-de-sac*.

The compression is of so considerable a degree as to seriously interfere with the peristaltic action of the intestines, and by impairing their sensitiveness, constipation is produced in a large number of cases. Compression of any part in proportion to its intensity just in that degree interferes with physiological functions. Therefore we may deduct the following :

1. That uterine development is greatest from eleven to fifteen years of age.
2. That tight lacing is usually commenced about that period of the beginning of uterine development.
3. That the corsets as usually worn produce both displacement and compression, and that they are worn through the entire day as tight as can be borne.
4. That displacement and compression interfere with nutrition and development of the pelvic contents more seriously than is generally supposed.
5. That a badly developed generative organ in the female offers diminished resistance to the invasion of disease and renders physiological work defective and necessarily painful. The uterus is normally freely movable and readily displaced by pressure; with the finger on the os it can be elevated one and a half to two inches. If the dorsal, semi-prone, lateral, or knee-chest position be assumed, we shall find the fundus gravitating to the dependent part.

The bimanual method is mainly effective by reason of this mobility. The ligaments of the uterus are composed of such tissues as favor stretching. Compression continued daily on such compressible organs as the uterus and appendages first diminishes the blood supply by lessening the caliber of the blood-vessels, and, secondly, by diminishing the rapidity of the flow. The pressure at night being relieved weakens the walls of the capillaries, render them inefficient carriers of the pabulum so necessary for the physiological performance of development; and equally well does it render imperfect the attempts by certain systems to transform certain conditions of physiological organs into a state of inertness—viz., certain canals, bodies, etc., that should be obliterated.

What would be expected were we to bandage a limb tightly from infancy? And still the vascular supply of the uterus is more easily interfered with by compression than a limb or foot. Hence we must admit a certain degree of maldevelopment of any organ which is subject to abnormal compression during its period of development.

The Egyptians, the acknowledged founders and promoters of civilization, education, and art, while permitting great variations in objects of luxury—vases, furniture, and other things depending on caprice—were forbidden to introduce any innovations in articles of dress tending to change the human figure or modify the true teachings of art.

Among the Africans, Indians, Chinese, and, in fact, all of the nations who do not practice tight lacing, we find the minimum amount of pelvic diseases, the most perfect pregnancy, confinement amounting to little pain or inconvenience, and satisfactory puerperium with the absence of any complications. Generally speaking, those who have practiced in the rural districts for the well-developed and healthy, and subsequently in the city for the delicate, badly nourished and poorly developed, where tight lacing is practically universal, will be thoroughly convinced that there is an explanation to be found in some way for the frequency of female ills in the latter, in contradistinction to its absence in the former. The great interest which has centered about gynæcology in the last score of years, the frequency and severity of pelvic diseases in the female at present in comparison with the pre-corset era is a fact for serious consideration; the increased sterility in high social life is not to be lightly considered and will give to the political economist food for grave deliberation, and the philanthropist considerable concern. In comparison with un-

civilized nations, customs of distorting—distracting, if you please, development—ours far exceeds, and the deleterious results are not to be predicted by any moderate calculations.

If Darwin's theory of natural selection is regarded as teaching the truth, we may in the future expect our fair sex to have waists as slim as wasps, and generative organs incapable of performing physiological functions.

That the girl who has practiced tight lacing sufficiently long to hinder development of the uterus is relieved by a course of electricity, massage and gymnastics properly and timely applied is offered as additional argument supporting the claim of this paper.

It is believed that mal-development of the uterus is necessarily bound to be present in every woman who practices tight lacing to any considerable extent prior to maturity of the uterus and appendages, and it remains to explain how this maldevelopment conduces to diseased conditions and renders physiological functions of organs incomplete and painful.

Peritonitis, if you will, parametritis, and perimetritis, may all be described under one head, as they are generally considered as implicating chiefly the peritonæum, which is composed of pavement epithelial cells, basement membrane, connective tissue, and vessels, and secretes a serous portion of the blood through stomata that exist between the epithelial cells. That localized inflammation or thickening often exists in the female pelvic peritonæum and seldom occurs in any other portion, renders it highly probable that pressure so interferes with its nutrition by diminishing the blood supply as to render it peculiarly liable to inflammatory attacks from slight causes. Hence we frequently find the fundus uteri retroverted and bound down by adhesions or anteverted or anteposed and adhered in virgins. The writer met several cases of this kind, and in each instance tight lacing had been persisted in from twelve years of age. If long-continued friction in old hernial sacs produces localized thickening and peritonitis, it must be expected the same will result from tight lacing in the pelvic peritonæum; and to this more than any other may be attributed the increasing frequency and severity of pelvic pain in females accustomed to tight lacing.

Displacements of the uterus, that subject about which so much has been written and whose treatment has been so diversified and varied; that "falling of the womb," which is so prevalent in the minds of such a large percentage of women and is a "hobby" for so many of our doctors, can find its main cause in tight lacing.

We find neither displacements of the uterus nor many diseased conditions, for that matter, of the generative organs in other forms of mammalia than mankind. Displacements are very frequent. Fränkel has found backward displacements present in eighteen per cent. of women examined by him. Zeigenspeck, whose conclusions are respected by most authors, considers change in the uterine walls in displacements as secondary to the symptoms. The symptoms are always secondary to the displacement. The ætiology of prolapsus uteri, as described by Hart and Barbour, is:

1. Deficient support by the entire fixed portion.
2. Deficient tone of entire displaceable segments of pelvic floor and slackening of loose tissues around it.
3. Intra-abdominal pressure.

As tight lacing produces mal-development of the pelvic contents as well as displacing all displaceable parts, a *résumé* of what has been said in reference to displacements must convince all that tight lacing is one of the most potent factors in its causation. Menstruation may be affected in many ways by this custom. Amenorrhœa may be the result of a poorly developed mucosa and its annexa together with faultily developed ovaries—a condition which, unless corrected, may lead to atrophy; or we may have congestion with profuse and long flows; or dysmenorrhœa, which the writer believes is due mostly to mal-development both of the nervous system, and the muscular and cellular tissues, rendering them inadequate to the physiological labor required. Cancer, so frequently occurring in civilized nations, must have its explanation in some custom peculiar to such civilization. There are embryonic cells in the uterus that remain through life; they are considered the cause of epithelioma of the cervix, and the cervix in ninety-eight per cent. of cases is the seat of cancer, local irritation being its chief generator. Tight lacing produces irritation by pressing down the cervix against adjacent parts.

Strength is added to this by quoting the views of Hart and Barbour: "Up to puberty the mortality for carcinoma of the sexes is the same. Afterward the relative proportion of female to male deaths gradually rises till it attains its maximum—about the age of sixty years—after which it falls away again."

Miscarriages are frequently due directly to this cause, and indirectly to maldevelopment of the female generative organs, proving their incapacity to nourish the embryo. Lacerated cervix, weak and inefficient contractions of the uterus in labor, protracted puerperium, the result of subinvolution, may usually find their true explanation

from this source. The increased frequency of endometritis, sterility, stenosis, erosion and atresia of the cervix and os, the varied aches and pains referred to the pelvis, must be largely attributed to this cause. A large percentage of the growths' cysts, etc., peculiar to the female pelvis can be traced to maldevelopment.

Doran has shown that the parovarium is nothing more or less than nine or ten vertical tubes, six or seven of which have been obliterated and remain as fibrous threads; these are the remains of the Wolffian bodies. These tubes are lined with cubical or broken-down epithelium, and are lost in the hilum of the ovary below, while the horizontal tubes from which they originate above may be traced to the side of the uterus forming the canal of Gartner.

It is no longer a disputed point that para-uterine cysts, as well as papillomatous cysts of the hilum, parovarium, and cysts of the broad ligaments, have their origin in these unobliterated ducts and the remains of the Wolffian bodies. Mal-development must necessarily account for this condition of affairs. Waldemyer shows a section of the ovary—Pflüger's ducts—that have not developed as they should have into Graafian follicles, and which may be the point for the origin of an ovarian cyst.

Fibroids and most solid tumors have their ætiology in maldevelopment of the sexual organs. Their occurrence chiefly after puberty and not after the menopause; their most frequent recurrence, as shown by Schröder and Gusserow, together with the frequent occurrence of various tumors in the same uterus or appendages—all tend to corroborate the position taken in this article. Time and space will fail me to follow this further, but the field is a large one. The great benefit obtained in pelvic ills from electrical treatment is due to its effect as an aid to development. The pain every woman feels, who has practiced tight lacing, on leaving off her corset is due to the effort of the parts to return to their normal position. Simonides on a certain occasion said: "Health is the best for mortal man, next beauty." To-day civilization has reversed this statement.

The ancient Egyptian's highest aim in life was to be well buried; the civilized nations of this period to be dressed after the order of style, be that as it may. "Whatever is off the hinges of custom is believed to be off the hinges of reason."

Goethe's expression, that "Art is called art simply because it is not Nature," is borne out in reference to the figure of the female who wears a corset. The visitor who can casually observe the beautiful and natural figures of Venus de Medici, with many other Roman and

Grecian sculptures, must be convinced that tight lacing was not practiced by those noble matrons.

Kay Robertson predicts that man will become toothless and toeless, with flaccid muscles, and limbs almost incapable of locomotion. It is to be regretted that this prophecy did not extend to the female of our day. Are civilized customs and forms of dress more conducive to health than those of the savages? It is thought not. Whitman, in answering his own question as to who is the friendly and flowing savage, says: "Is he waiting for civilization, or is he past it and mastering it?"

The hand of the Chinese æsthetic, with its long and curling nails; the savages of the east coast of Australia, with a bone the thickness of a man's finger and six inches long transfixing the nasal septum; the natives of the Corn Islands off the Mosquito Coast in Central America, with beards of tortoise-shell dangling from an artificial hole in the chin and lips; the Botocudo Indians, the Esquimaux and Thlinkeet of Alaska, and many tribes of Africa, by puncturing their lips, nose, ears, and chin, and applying weights and dilators resulting in frightful deformities—may have their eccentricities and absurdities, but their evil effects will not compare with those of tight lacing.

The artificial flattened and elongated occipital portion of the head by bandages worn on infants' heads by the ancient natives of Peru, many interesting specimens of which can be seen in the museum of the Royal College of Surgeons, London, approach more nearly those of tight lacing in their injurious effects than any other.

This article is intended to call the profession's serious attention to the evil effects of tight lacing, and to urge upon them some steps that may inform the laity as to the true effects of such fashion; also to present a solid professional front antagonistic to such a deleterious custom. The fact of tolerating such a custom as tight lacing, which originated in mediæval times, classes us with the uncivilized and barbarous, seeks to oppose the Creator of our bodies, and the example given us by Nature. "Seest thou not what a deformed thief this Fashion is?"

